PME RESEARCH LABORATORY, SEPTEMBER 1980

PROJECT TITLE : BIOTECHNOLOGY

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ACETIC ACID (1)

An enzymatic method (2) was tested out and used to determine acetic acid in denitrated stem extracts.

If acetic acid is used to maintain the pH in NINO trials, 1.5 g can be found in 1 litre of denitrated extract. Thus, 94 % of the added acetic acid are metabolized (3), regardless of the pH used.

NITRATE VARIATIONS (4)

A series of trials were started to check the flexibility of the NINO system towards nitrate fluctuations.

Working at standard conditions (pH 5.5, 30° C, lactic acid) and a dilution rate of 0.13 hr^{-1}, nitrate concentrations in the extract were deliberately increased from 3 to 6 g/l, and again decreased to 3 g/l after a stabilization period of 24 hours. The glucose: nitrate ratio was maintained at 8.33. As expected, no nitrate could be detected at any time in the effluent of the fermenter. These trials will continue all by using higher dilution rates and more drastical changes in nitrate concentrations.

MISCELLANEOUS

- Assitance was given for current pilot plant trials.
- Part of the equipment for the nitrate monitoring system was received and is currently under test.
- Routine analysis: 4 samples (citrate).

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REFERENCES

(1) J. Berney, Notebook 800802, 1-6.

(2) Boehringer Mannheim, Biochemica, Acetic Acid Analysis.

(3) J. Berney, Monthly Report, August 1980

(4) M.F. Mangilli, Notebook 800801, 1-4.

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